

## ABSTRACT

[00082] The invention relates to methods of isolating and implanting mesenchymal stem cells for tissue repair or formation, without prior culture expansion of the mesenchymal stem cells. In particular, the invention relates to  
5 methods of isolating mesenchymal stem cells from bone marrow, for repairing or inducing formation of bone, without prior culture expansion of the mesenchymal stem cells. The invention further relates to an isolated, non-culturally expanded human adult mesenchymal stem cell population.